Urban Strategy of Bio-corridor in Cities

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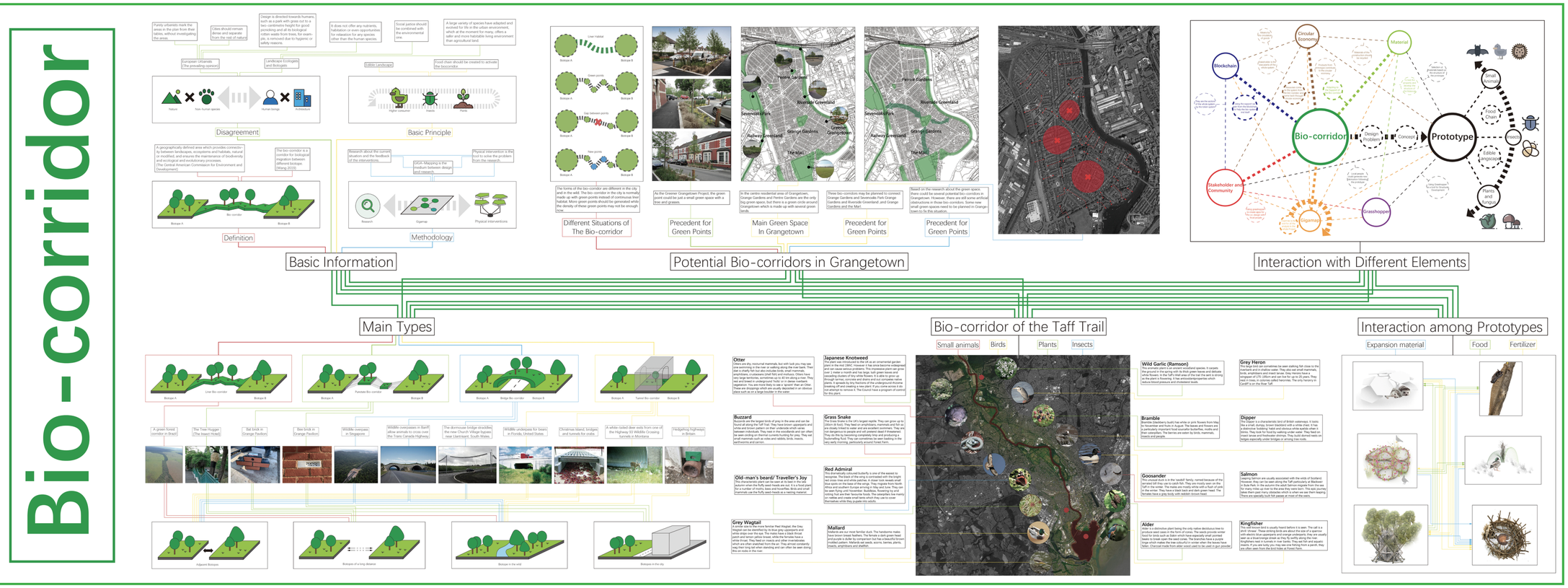

HOW TO GENERATE BIO-CORRIDORS IN GRANGETOWN

Urban Strategy and Prototype Design Process

CARDIFF UNIVERSITY
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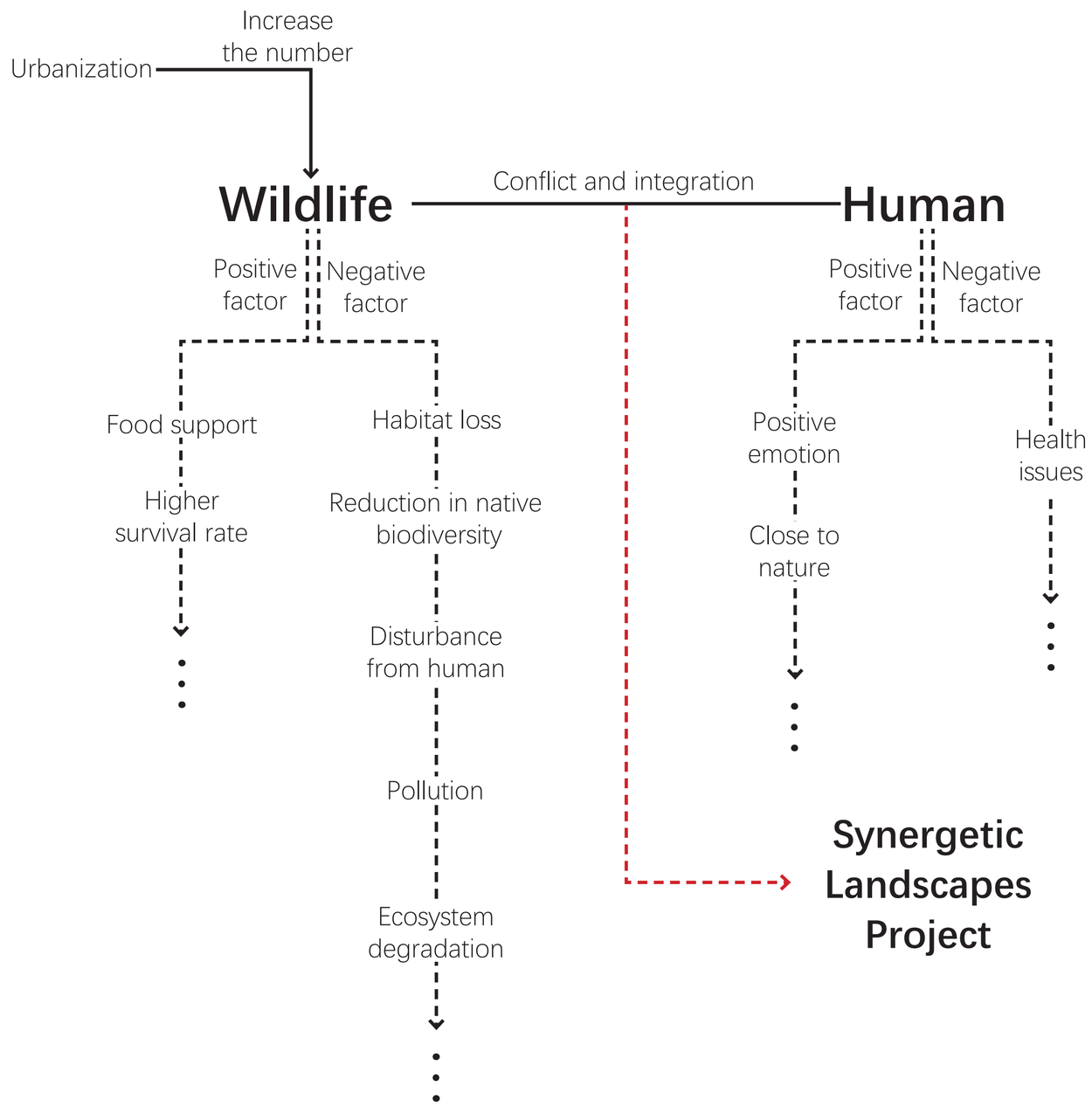
1. Background of Urban Wildlife



2. Context of Grangetown


Shri Swaminarayan Mandir


Pentre Gardens


St Dyfrig and St Samson Church

Grange Gardens


Grange Pavilion


The Salvation Army


Hereford Street Park


St Patrick's R C Primary School

Grangetown Hub


St Patrick's Roman Catholic Church

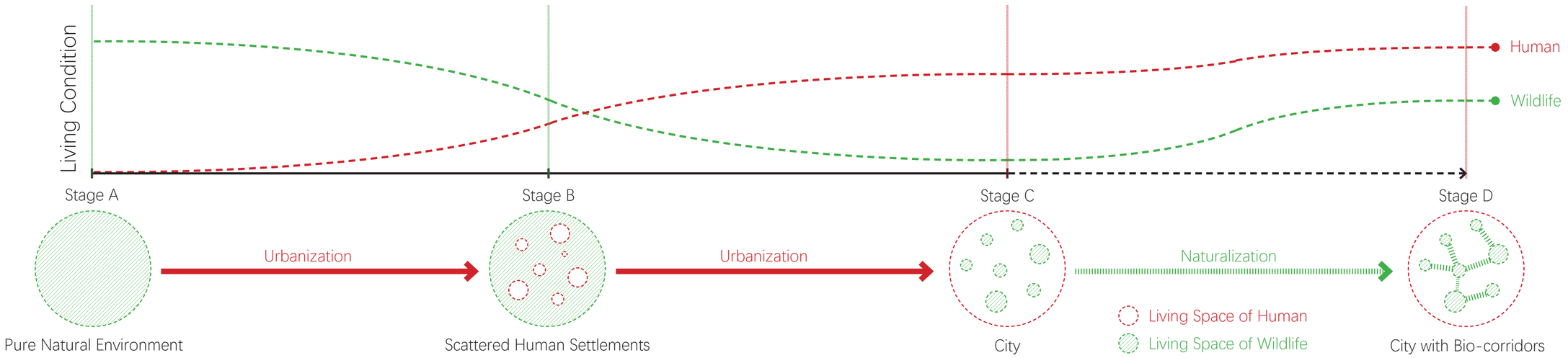

Grangetown Primary School


St Pauls Primary School

3. Diagnosis of Green Space in Grangetown

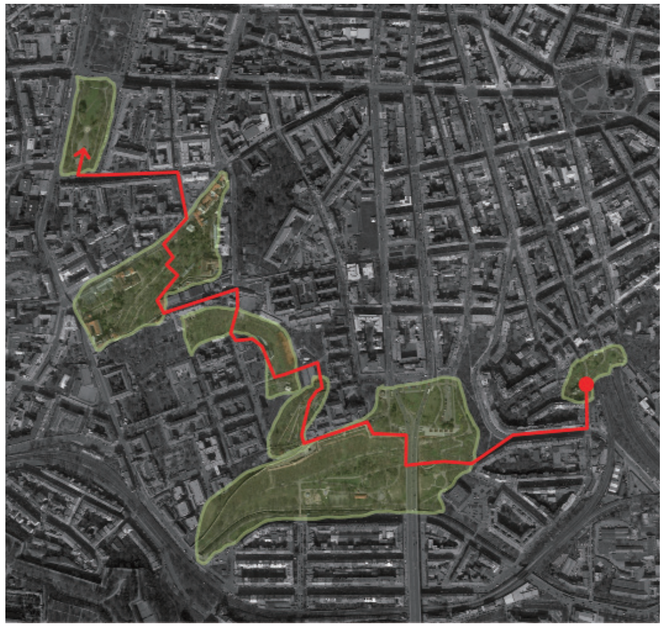
Main Green Space	Properties	**Diagnosis**	Problem
Small Parks House Backyards Street Trees	Limitation of area Scattered Distribution	Urban Biodiversity Isolation	Reduction of Biodiversity Migration Problem

4. General Proposal



5. Urban Bio-corridor Experiment in Prague

a. Choose Six Green Spaces

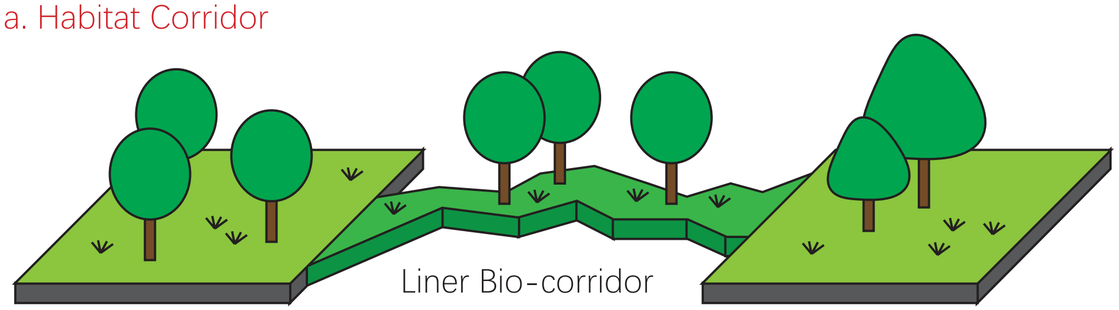


b. Record the Route

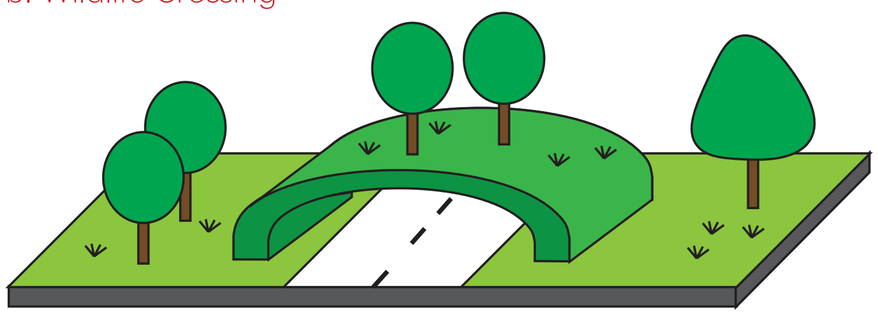
c. Find the Potential bio-corridor

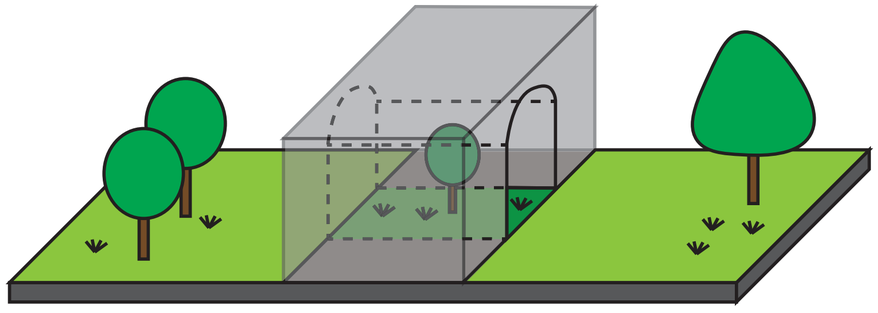
6. Analysis of Different Forms of Bio-corridors

a. Habitat Corridor



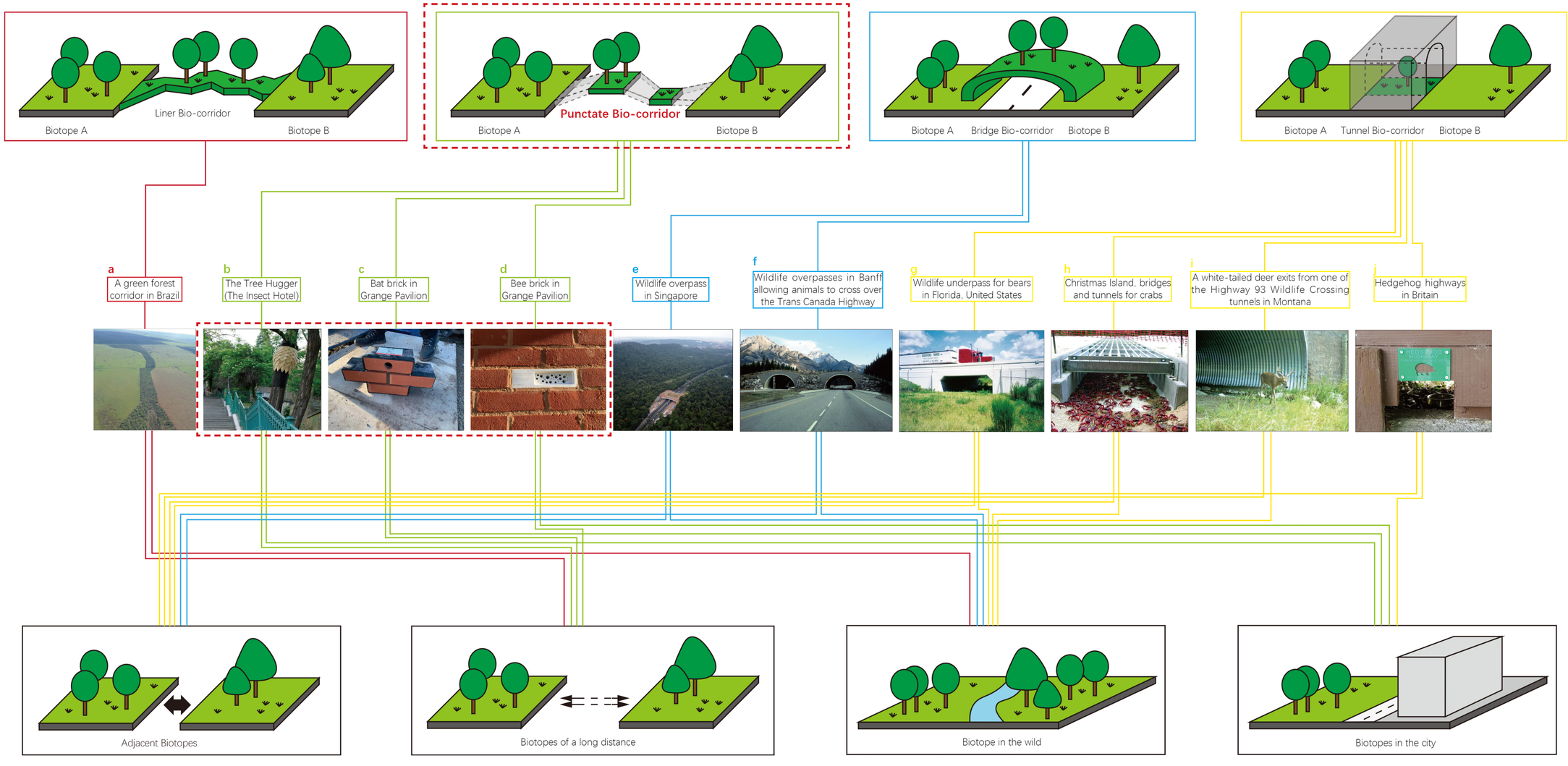
b. Wildlife Crossing



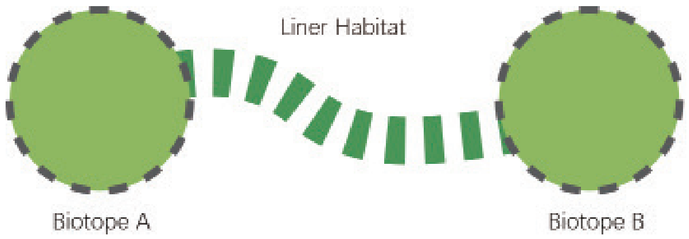


7. The Proposal of Punctate Bio-corridor

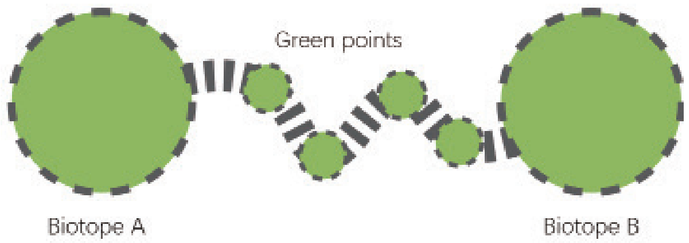
Source:
a. (Photo: Laury Cullen Jr 2011)
b. (Photo: Robert Carrithers 2017)
c-d. (Photo: Author, 2019)
e. (Photo: Benjamin P. Y-H. Lee, 2014)
f. (Photo: Qyd 2006)
g. (Photo: U.S. Dept. of Transportation 2007)
h. (Photo: Lorenzo Brenna 2016)
i. (Photo: Josh Lew 2015)
j. (Photo: The Hedgehog Street Team)



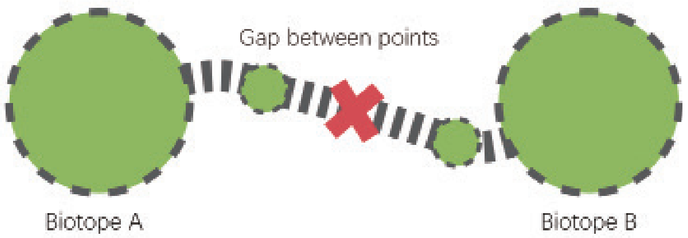
8. Urban Strategy of Bio-corridor



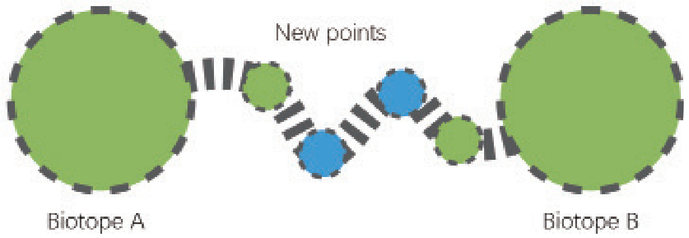
a. Bio-corridor in wild



b. Bio-corridor in cities

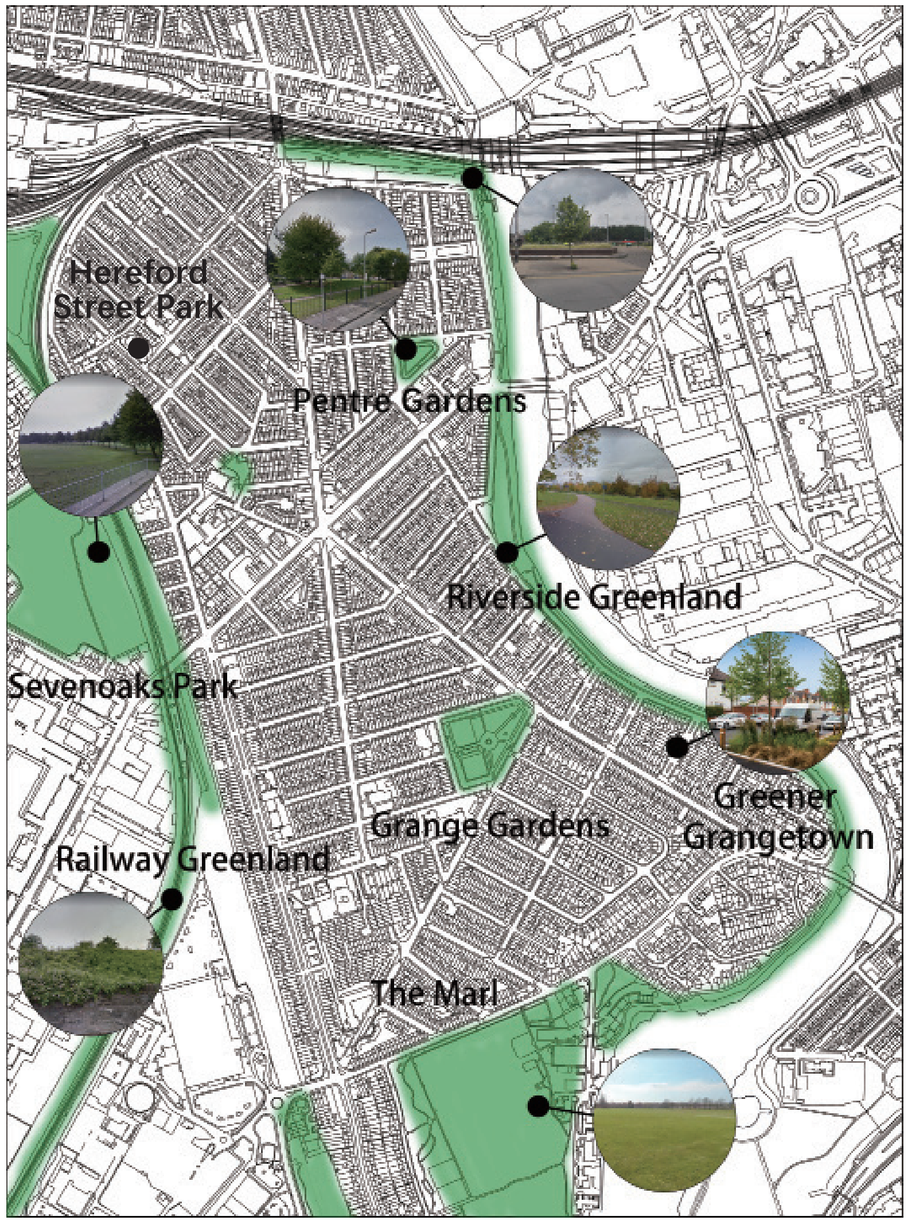


c. Design Problem



d. Solution

9. Urban Strategy of Bio-corridor



a. Distribution of big green spaces

b. Three main directions

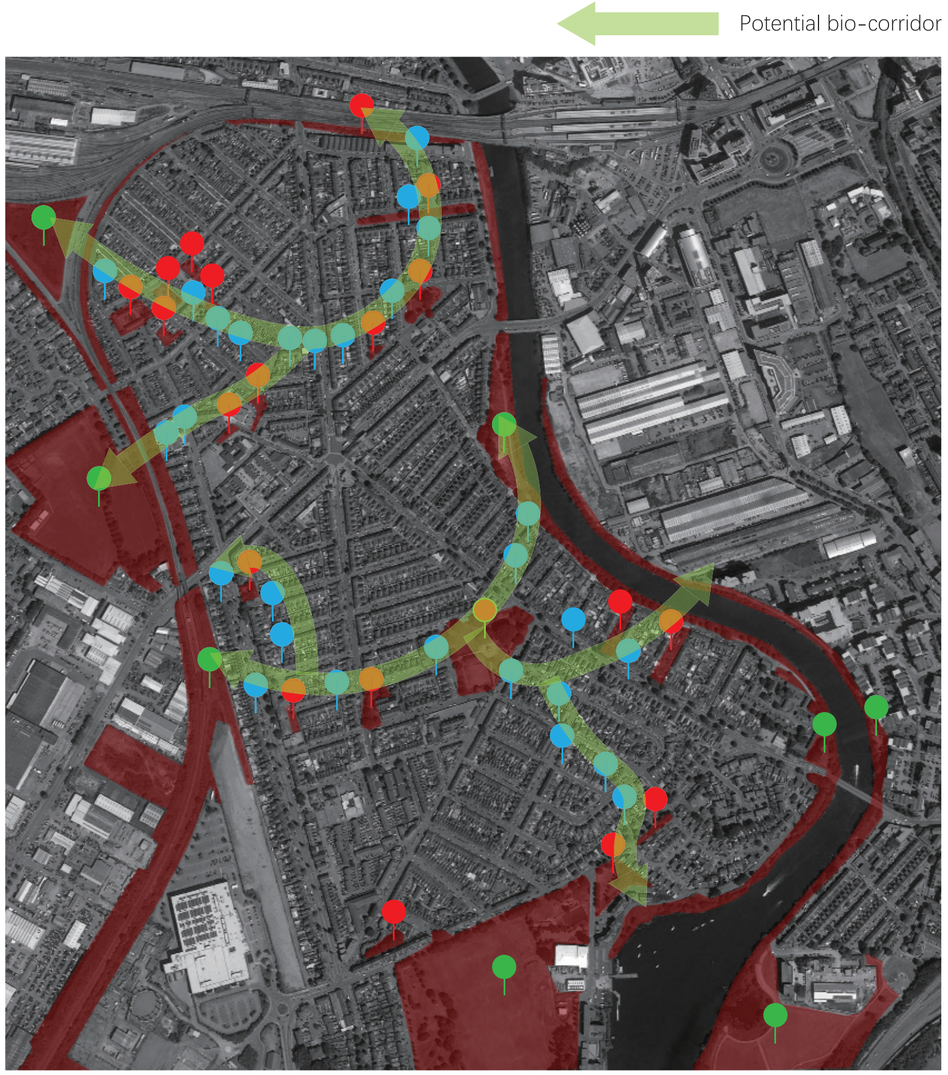
10. Bio-corridor Solution in Grangetown

a. Green Space including Large Green Areas and Small Green Spots

b. Evaluation and Classification of Green Space

10. Bio-corridor Solution in Grangetown

c. Revision of Evaluation and Classification Result



d. Connection of Potential Bio-corridors

11. Participation of Residents-Online Collective Map

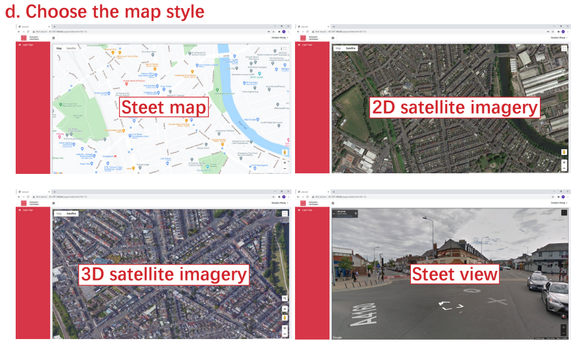
a. Use the link or scan the QR code

http://47.107.148.84/pages/login.html

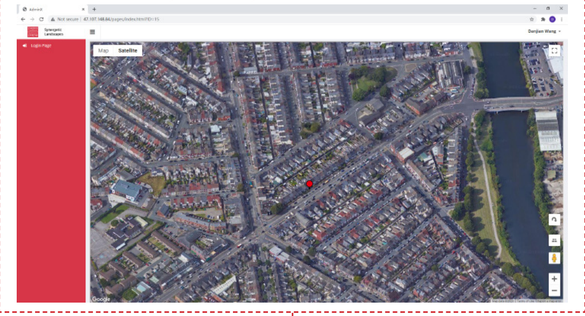
b. Login in

c. Register

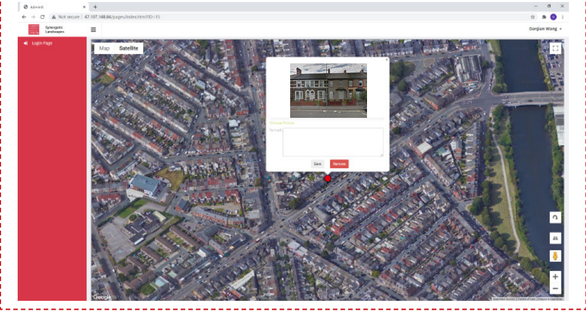
d. Choose the map style



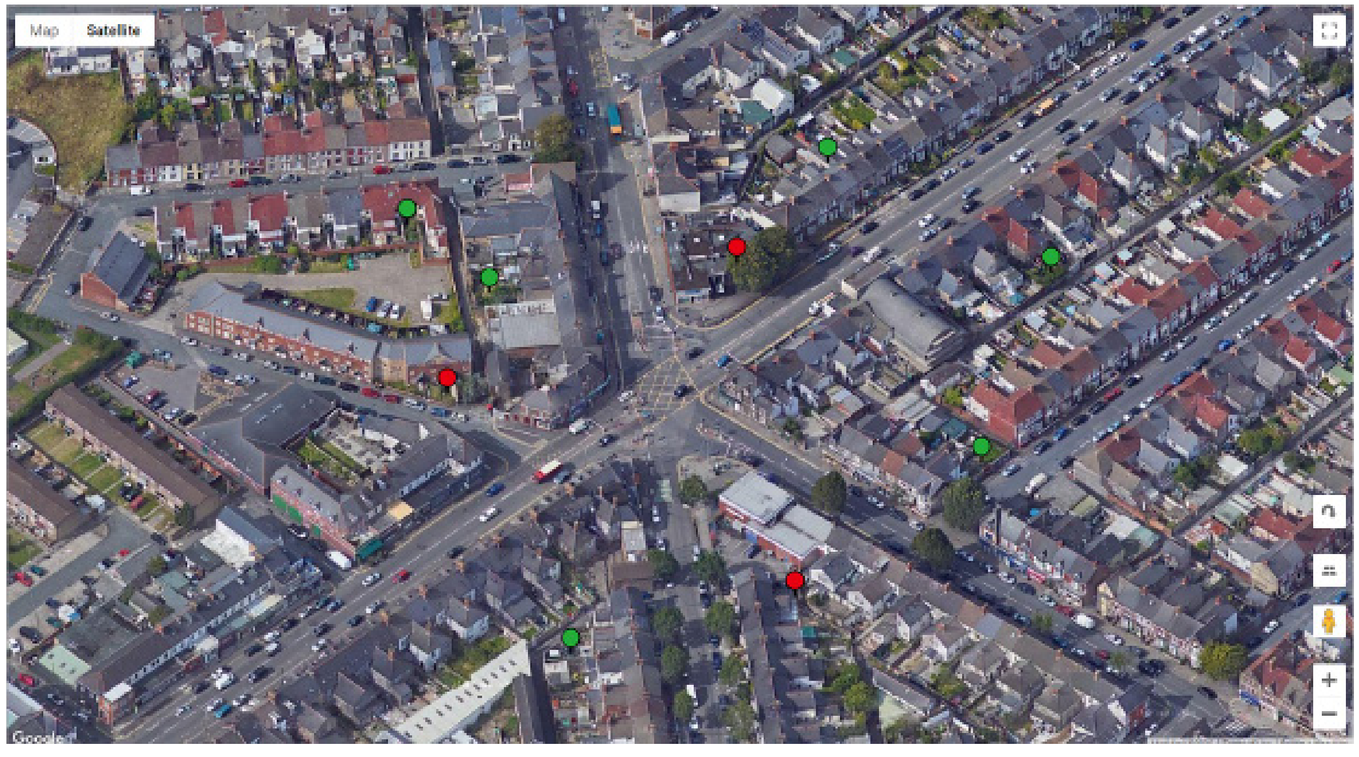
e. Add the point of your backyard



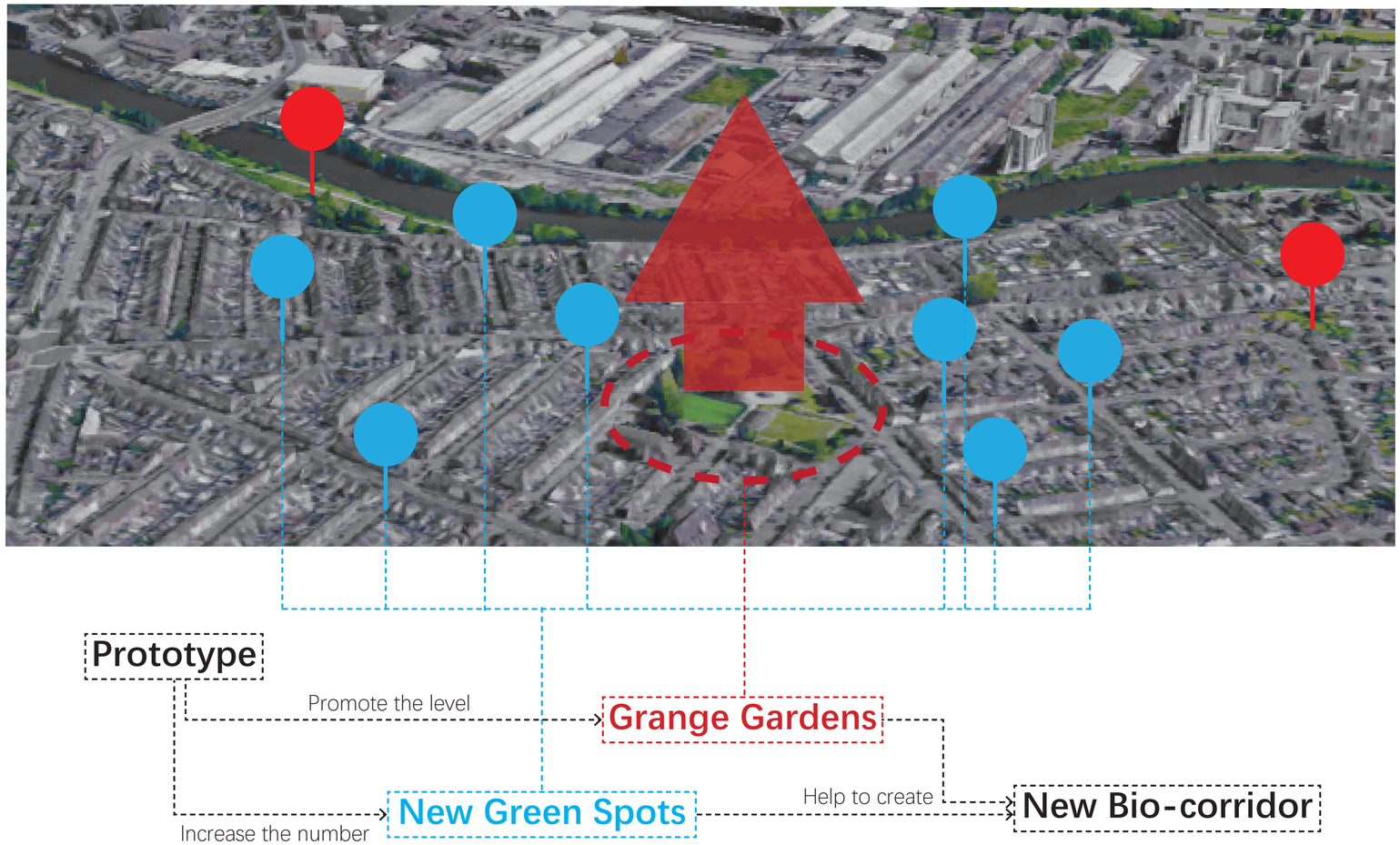
f. Upload the picture and leave a comment



g. Final collective map



12. Design Logic in Prototype Level



13. Codesign Process of the Prototypes

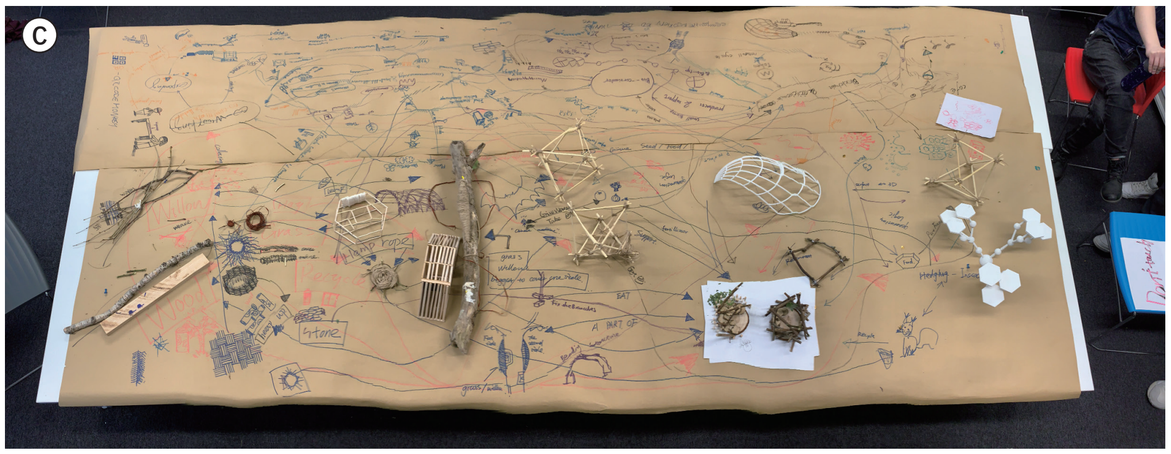
A. Introducing the project and modifying our prototypes with local people (Photo: Author 2020)

B. Codesigning with local people about how to improve Grangetown (Photo: Author 2020)

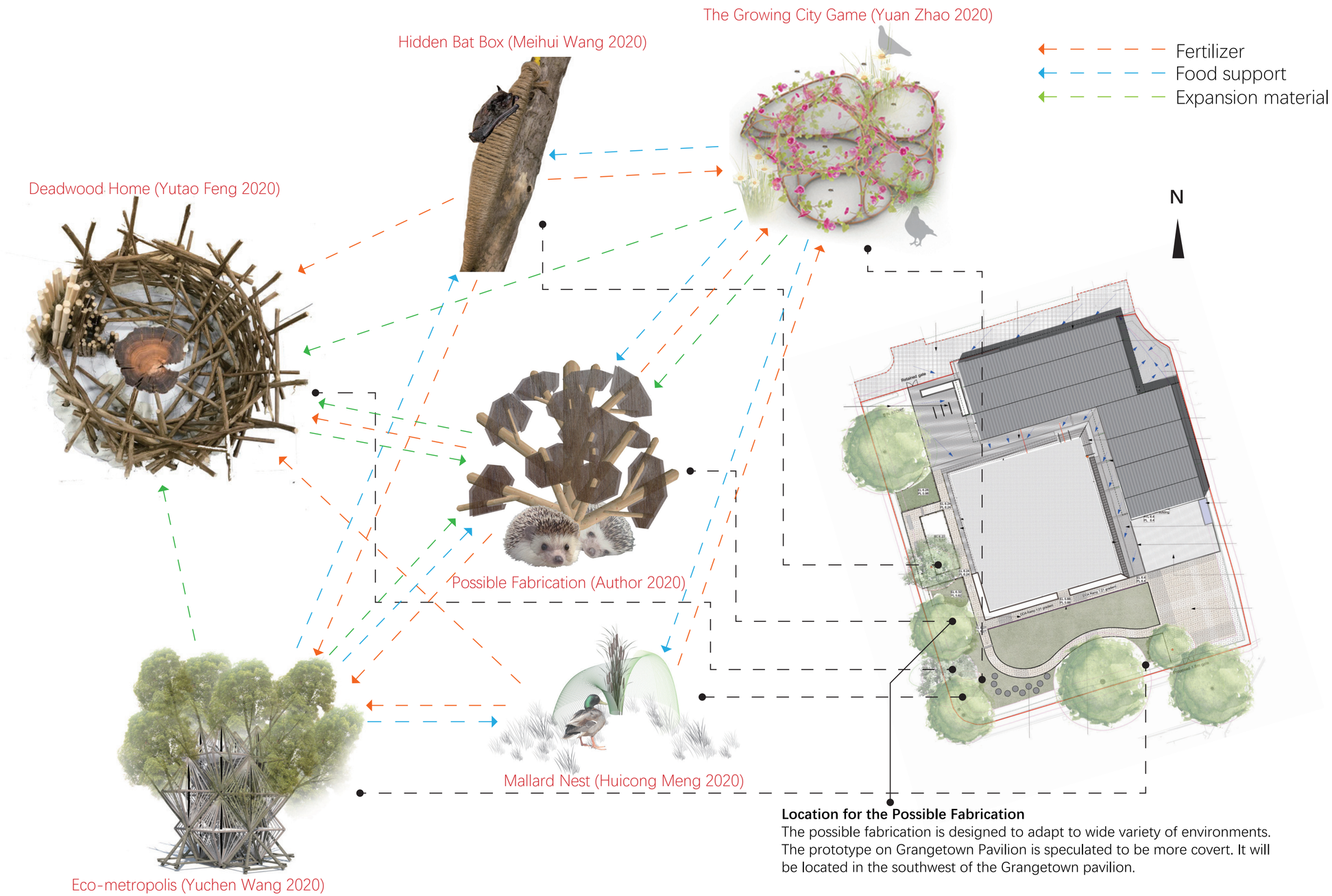
C. Codesign with teammates about the interaction among our prototype (Photo: Author 2020)

D. Gigamapping about design concept and strategy with Landscape Ecologist (Photo: Author 2020)

E. Codesign workshop with stakeholders (Photo: Author 2020)



14. Biological System in Grange Gardens



Location for the Possible Fabrication

The possible fabrication is designed to adapt to wide variety of environments. The prototype on Grangetown Pavilion is speculated to be more covert. It will be located in the southwest of the Grangetown pavilion.

15. DIY Competition

Synergetic Landscapes

DIY Competition

The aim of the competition is to encourage people to use natural materials to create liveable spaces for other species in your front and back garden.

Deadline: August 10th, 2020

Please, select the design you would like to reproduce and go to its DIY recipe via QR code.

How to Participate:

1. Post photos of the completed installation on Twitter and @Synergetic_landscape

2. Upload it to a map on this website: http://47.107.148.84/pages/login.html

Rewards: Participants could receive Tokens that can be exchanged for gifts from local small businesses.

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16. Conclusion

This paper researches on how to generate urban bio-corridors in Grangetown to deal with the biological isolation of urban wildlife. Based on the diagnosis of the context of Grangetown, and the analysis of the literatures and precedents, a new form of bio-corridor is pointed out by author called punctate bio-corridors. In order to generate punctate bio-corridors, new green spots are planned to be connected as potential bio-corridors. Through the biological research, the material and structure experiments, the codesign process and the DIY competition, several prototypes are designed to adapt to different environments and demands, which could serve as the green spots in punctate bio-corridors.

With increasing urbanization, the humanistic environment and the biological system of the city will be further changed. The urban strategy of bio-corridors should be constantly modified to face the challenge of the times.